REMARKS

This is in full and timely response to the Office Action mailed on October 6, 2006. Reexamination in light of the following remarks is respectfully requested.

Claims 12-13 and 15-29 are currently pending in this application, with claims 12 and 21 being independent.

No new matter has been added.

Rejection under 35 U.S.C. §103

Paragraph 3 of the Office Action indicates a rejection of claims 12-13 and 19-20 under 35 U.S.C. §103 as allegedly being unpatentable over U.S. Patent No. 5,040,069 to Matsumoto et al. (Matsumoto).

Paragraph 5 of the Office Action indicates a rejection of claims 15 and 16 under 35 U.S.C. §103 as allegedly being unpatentable over Matsumoto in view of U.S. Patent No. 5,777,335 to Mochizuki et al. (Mochizuki).

Paragraph 6 of the Office Action indicates a rejection of claims 17 and 18 under 35 U.S.C. §103 as allegedly being unpatentable over Matsumoto in view of Mochizuki, and in further view of U.S. Patent No. 6,011,860 to Fujieda et al. (Fujieda).

Claim 12 - No rejection of claim 14 is found within the preceding rejections.

Accordingly, the features of claim 14 have been wholly incorporated into claim 12 to form amended claim 12. Thus, prior claim 14 is now amended claim 12 rendering the above-identified rejections as moot.

Withdrawal of this rejection is respectfully requested.

Paragraph 4 of the Office Action indicates a rejection of claim 14 under 35 U.S.C. §103 as allegedly being unpatentable over Matsumoto in view of U.S. Patent No. 5,617,131 to Murano et al. (Murano).

At least for the following reasons, if the allowance of the claims is not forthcoming at the very least and a new ground of rejection made, then a ***new non-final Office Action*** is respectfully requested.

These rejections are traversed at least for the following reasons.

Claims 12-13 and 15-20 - Claims 13 and 15-20 are dependent upon claim 12. The features of claim 14 have been wholly incorporated into claim 12 to form amended claim 12.

Thus, prior claim 14 is now amended claim 12.

Claim 12 is drawn to an optical system having an optical module, the optical module comprising:

> a substrate, the substrate including a plate of a first material adhered to a wiring board of a material other than the first material, a through-hole extending through the plate and the wiring board;
>
> an optical element mounted to the wiring board, the optical element including a light receiving portion, the wiring board being between the optical element and the plate; and
>
> a lens unit mounted to the plate, the lens unit including a lens, the plate being between the wiring board and the lens unit,
>
> wherein the light receiving portion and the lens are disposed along an optical axis, the optical axis extending through the through-hole, and
>
> wherein the first material is a metal.

Matsumoto - Matsumoto arguably teaches that on the rear side, *the substrate 15* is formed with *predetermined wiring patterns 17* as shown in Figure 4, each wiring pattern being connected to a wiring cable 18 at the outer peripheral marginal edge of the substrate 15 and having an electrode portion 17a in the vicinity of the center opening 16 (Matsumoto at column 3, lines 5-11).

However, Matsumoto *fails* to disclose, teach, or suggest *the substrate 15* being of a first material, wherein the first material is a metal.

Instead, Matsumoto arguably teaches that *the reference 15* indicates a substrate of ***insulating material*** *such as ceramics or the like*, which is centrally provided with a rectangular opening 16 (Matsumoto at Figure 2, column 3, lines 3-5).

Matsumoto arguably teaches that Figures 7 and 8 illustrate a second embodiment of the invention, in which, as seen particularly in Figure 7, a solid image pickup assembly 101 is constituted by a transparent support plate 102 of optical glass or other material, a flexible thin film substrate 103 consisting of a resin film or the like and bonded to one side of the support plate 102, and a solid image pickup device 104 mounted on the thin film substrate 103 (Matsumoto at column 5, lines 37-44).

However, Matsumoto ***fails*** to disclose, teach, or suggest either the support plate 102 or the thin film substrate 103 as being of a first material, wherein the first material is a metal.

Instead, Matsumoto arguably teaches that the support plate 102 is of *optical glass or other material* and the flexible thin film substrate 103 consist of *a resin film or the like*.

Thus, Matsumoto ***fails*** to disclose, teach, or suggest a substrate, the substrate including a plate of a first material adhered to a wiring board of a material other than the first material, a through-hole extending through the plate and the wiring board, wherein the first material is a metal.

Murano - The Office Action cites Murano for the features that are admittedly deficient from within Matsumoto.

Murano arguably teaches that, as shown in Figure 3, the spacer 9 comprises at least double layers consisting of an *insulating layer 9b* made of an organic film such as a polyester or polyimide film, a paper, or glass, and a *metallic layer 9c* made of stainless steel, copper, iron, or the like (Murano at column 6, lines 19-23).

The Office Action appears to attempt a substitution of *the substrate 15* of Matsumoto with the metallic layer 9c of Murano.

In response, Matsumoto arguably teaches that *the reference 15* indicates a substrate of ***insulating material*** *such as ceramics or the like*, which is centrally provided with a rectangular opening 16 (Matsumoto at Figure 2, column 3, lines 3-5).

In addition, *the substrate 15* of Matsumoto is formed with *predetermined wiring patterns 17* as shown in Figure 4 (Matsumoto at column 3, lines 5-11). The wiring patterns 17 of Matsumoto are on the rear side of the substrate 15 (Matsumoto at column 4, lines 16-17).

Yet, the Office Action *fails* to show why the skilled artisan would have been motivated to modify Matsumoto by replacing the ***insulating material*** *such as ceramics or the like* of the substrate 15 of Matsumoto with the metallic layer associated with element 9c of Murano, especially when the wiring patterns 17 of Matsumoto are on the rear side of the substrate 15. See, for example, *In re Dillon,* 13 USPQ2d 1337, 1342 (Fed. Cir. 1989), and M.P.E.P. §2143.01, section "*The Proposed Modification Cannot Change The Principle Of Operation Of A Reference*."

The Office Action appears to attempt a substitution of the support plate 102 of Matsumoto with the metallic layer 9c of Murano.

However, the Office Action *fails* to show that the opening 105 of Matsumoto extends through the support plate 102 (Matsumoto at Figure 7).

Moreover, the Office Action *fails* to show that the metallic layer 9c of Murano is transparent to light.

Thus, the Office Action *fails* to show why the skilled artisan would have been motivated to modify Matsumoto by replacing the *optical glass or other material* of the support plate 102 of Matsumoto with the metallic layer associated with element 9c of Murano. See, for example, *In re Dillon,* 13 USPQ2d 1337, 1342 (Fed. Cir. 1989), and M.P.E.P. §2143.01, section "*The Proposed Modification Cannot Change The Principle Of Operation Of A Reference.*"

Furthermore, Murano arguably teaches the presence of LED arrays 3 (Murano at Figures).

Murano arguably teaches that CCD arrays may be usable in place of the LED arrays for providing an image reading device such as an image sensor (Murano at column 11, lines 43-45).

Murano arguably teaches that, as shown in Figure 3, the spacer 9 comprises at least double layers consisting of an insulating layer 9b made of an organic film such as a polyester or polyimide film, a paper, or glass, and a metallic layer 9c made of stainless steel, copper, iron, or the like (Murano at column 6, lines 19-23).

The Office Action attempts to associate the substrate 2 of Murano with the claimed wire board; attempts to associate the metallic layer 9c of Murano with the claimed plate; and attempts to associate the LED array 3 of Murano with the claimed optical element (Office Action at page 3).

However, Murano fails to disclose, teach, or suggest the substrate 2 of Murano being between the LED array 3 and the plate; and the metallic layer 9c (Murano at Figure 3).

Thus, Murano *fails* to disclose, teach, or suggest an optical element mounted to the wiring board, the optical element including a light receiving portion, the wiring board being between the optical element and the plate.

Withdrawal of this rejection and allowance of the claims is respectfully requested.

Newly added claims

Claims 21-29 - Claims 22-29 are dependent upon claim 21. Claim 21 is drawn to an optical system having an optical module, the optical module comprising:

> a substrate, the substrate including a plate of a first material adhered to a wiring board of a material other than the first material, a through-hole extending through the plate and the wiring board;
>
> an optical element mounted to the wiring board, the optical element including a light receiving portion, the wiring board being between the optical element and the plate; and
>
> a lens unit mounted to the plate, the lens unit including an optical filter and a lens, the lens being between the optical filter and the light receiving portion, the plate being between the wiring board and the lens unit,
>
> wherein the light receiving portion and the lens are disposed along an optical axis, the optical axis extending through the optical filter and the through-hole.

Matsumoto, Mochizuki, Murano, and Fujieda, either individually or as a whole, fail to disclose, teach, or suggest a lens unit mounted to the plate, the lens unit including an optical filter and a lens, the lens being between the optical filter and the light receiving portion, the plate being between the wiring board and the lens unit.

Allowance of the claims is respectfully requested.

Conclusion

For the foregoing reasons, all the claims now pending in the present application are allowable, and the present application is in condition for allowance. Accordingly, favorable

reexamination and reconsideration of the application in light of the amendments and remarks is courteously solicited.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: January 5, 2007

Respectfully submitted,

By_____
Ronald P. Kananen
Registration No.: 24,104
RADER, FISHMAN & GRAUER PLLC
Correspondence Customer Number: 23353
(202) 955-3750
Attorneys for Applicant